

Attorney Docket No: IMM110A (IMMR-013/01US)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#5

In re application of Bruce M. Schena

Serial No.: 09/866,385

Examiner: Unassigned

Confirmation No: 4433

Art Unit: 2173

Filed: May 24, 2001

For: HAPTIC DEVICES USING ELECTROACTIVE POLYMER

RECEIVED

Commissioner for Patents  
Washington, D.C. 20231

OCT 16 2002

Technology Center 2100

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §1.97(b)

In accordance with the duty of disclosure set forth in 37 C.F.R. §1.56,  
Applicant(s) hereby submits the following information in conformance with 37 C.F.R.  
§§1.97 and 1.98.

- ☒ Pursuant to 37 C.F.R. §1.98, a copy of each document cited in the attached Form PTO/SB/08 is enclosed.
- ☐ No copies of the publications listed on the attached Form PTO/SB/08A are being provided pursuant to 37 C.F.R. §1.98(d) because the publications were previously cited by or submitted to the Office in prior Application Serial No. \_\_\_ to which the above-identified application claims priority under 35 U.S.C. §120.
- ☐ Publication(s) \_\_\_ listed on the attached Form PTO/SB/08A were cited in a foreign search or examination report corresponding to \_\_\_ application serial no. \_\_\_ and mailed on \_\_\_.
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_. Pursuant to §609 of the M.P.E.P., Applicant submits the attached foreign search or examination report, which cites such non-English language publication(s).
- ☐ Enclosed is a copy of a non-English publication(s) \_\_\_. English language publication \_\_\_ (copy enclosed) claims priority from this non-English publication.
- ☐ Enclosed is an explanation of non-English publication(s) \_\_\_ for which an English translation is not available.

☐ Enclosed is an English translation of non-English publication(s) \_\_\_ cited in the attached Form PTO/SB/08A.

☐ Enclosed are copies of pending patent application serial nos.

This Information Disclosure Statement is filed within any one of the following time periods:

☐ within three months from the filing date of this national application other than a CPA under 37 C.F.R. § 1.53(d);

☐ within three months from the date of entry of the national stage as set forth in 37 C.F.R. §1.491 in this international application;

☒ before the mailing date of a first office action on the merits; or

☐ before the mailing of a first office action after the filing of a request for continued examination under 37 C.F.R. § 1.114.

It is respectfully requested that the Examiner consider the above-noted information and return an initialed copy of the attached Form PTO/SB/08A to the undersigned.

Dated: October 15, 2002

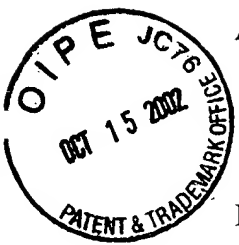
Cooley Godward LLP  
One Freedom Square  
Reston Town Center  
11951 Freedom Drive  
Reston, Virginia 20190-5656  
(703) 456-8000  
(703) 456-8100

Respectfully submitted,  
**COOLEY GODWARD LLP**

By:



**Christopher R. Hutter**  
**Reg. No. 41,087**



Attorney Docket No: IMM110A (IMMR-013/01US)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of Bruce M. Schena

Serial No.: 09/866,385

Examiner: Unassigned

Confirmation No: 4433

Art Unit: 2173

Filed: May 24, 2001

For: **HAPTIC DEVICES USING ELECTROACTIVE POLYMERS**

Commissioner for Patents  
Washington, D.C. 20231

TRANSMITTAL OF DOCUMENTS

RECEIVED

OCT 16 2002

Technology Center 2100

Enclosed are the following documents:

- [x] An Information Disclosure Statement and accompanying Form PTO/SB/08A and cited references for the above-identified patent application.
- [x] Revocation and New Power by Assignee
- [x] Request for Change of Docket Number
- [x] Return Receipt Postcard

In accordance with 37 C.F.R. §1.97(b), no additional fee for submission of the IDS is required. The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1283.


Dated: October 15, 2002

Cooley Godward LLP  
One Freedom Square  
Reston Town Center  
11951 Freedom Drive  
Reston, Virginia 20190-5656  
(703) 456-8000  
(703) 456-8100

Respectfully submitted,  
COOLEY GODWARD LLP

By:

Christopher R. Hutter  
Reg. No. 41,087

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<i>Complete if Known</i>	
				Application Number	09/866,385
Filing Date		May 24, 2001			
First Named Inventor		Bruce M. Schena			
Group Art Unit		2173			
Examiner Name		Unassigned			
Sheet	1	of	3	Attorney Docket Number	IMM110A (IMMR-013/01US)

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
	A1	5,785,630		Bobick, et al.	07/28/1998
	A2	5,766,016		Sinclair et al.	06/16/1998
	A3	5,547,382		Yamasaki et al.	08/20/1996
	A4	5,466,213		Hogan et al.	11/14/1995
	A5	5,334,027		Whorlock	08/02/1994
	A6	5,309,140		Evered, et al.	05/03/1994
	A6	5,299,810		Pierce et al.	04/05/1994
	A7	5,275,174		Cook	01/04/1994
	A8	5,271,290		Fischer	12/21/1993
	A9	5,240,417		Smithson et al.	08/31/1993
	A10	5,212,473		Technology Center	05/18/1993
	A11	5,078,152		Bond et al.	01/07/1992
	A12	5,038,089		Szakaly	08/06/1991
	A13	5,035,242		Franklin et al.	07/30/1991
	A14	5,022,407		Horch et al.	06/11/1991
	A15	5,019,761		Kraft	05/28/1991
	A16	4,934,694		McIntosh	06/19/1990
	A17	4,930,770		Baker	06/05/1990
	A18	4,891,764		McIntosh	01/02/1990
	A19	4,794,392		Selinko	12/27/1988
	A20	4,713,007		Alban	12/15/1987
	A21	4,708,656		de Vries et al.	11/24/1987
	A22	4,599,070		Hladky et al.	07/08/1986
	A23	4,581,491		Boothroyd	04/08/1986
	A24	4,513,235		Acklam et al.	04/23/1985
	A25	4,236,325		Hall et al.	12/02/1980
	A26	4,160,508		Salisbury, Jr.	07/10/1979
	A27	3,911,416		Feder	10/07/1975
	A28	3,903,614		Diamond et al.	09/09/1975
	A29	3,902,687		Hightower	09/02/1975
	A30	3,623,064		Kagan	11/23/1971
	A31	3,517,446		Corlyon et al.	06/30/1970
	A32	3,497,668		Hirsch	02/24/1970
	A33	3,220,121		Culter	11/30/1965
	A34	3,157,853		Hirsch	11/17/1964

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)		
	B1		0 349 086	A1	Stork Kwant B.V.	01/03/1990
	B2					

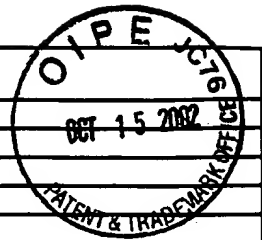
<sup>1</sup> Unique citation designation number.<sup>2</sup> See attached Kinds of U.S. Patent Documents.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.<sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete if Known



Sheet	2	3	Application Number	09/866,385
			Filing Date	May 24, 2001
			First Named Inventor	Bruce M. Schena
			Group Art Unit	2173
			Examiner Name	Unassigned
			Attorney Docket Number	IMM110A (IMMR-013/01US)

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	Baigrie, "Electric Control Loading - A Low Cost, High Performance Alternative," <i>Proceedings of Interservice/Industry Training Systems Conference</i> , pp. 247-254, November 6-8, 1990	
	C2	Iwata, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	
	C3	Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," <i>MIT Libraries Archives</i> pp. 1-131, May 1990, archived 8/14/90	
	C4	Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," <i>JPL Publication 85-11</i> , NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985	
	C5	Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); <i>Experimental Brain Research</i> , Vol. 79, No. 1, pp. 150-156, 1990	
	C6	Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," <i>1993 IEEE International Conference on Robotics and Automation</i> , pp. 25-44, 05/02/1993	
	C7	Snow et al., "Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
	C8	Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, UMI Order No. 9034744, p. 1-369, 1990	
	C9	Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," <i>MIT Archive</i> , pp. 1-88, February 1990, archived 8/13/90	
	C10	Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
	C11	Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 1-12, 1992	
	C12	Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337	
	C13	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 55-61, ASME 1992	
	C14	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, <i>Advances in Robotics</i> , pp. 63-70, ASME 1992	
	C15	Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," <i>Telemanipulator Technology and Space Telerobotics</i> , Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
	C16	Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," <i>Cooperative Intelligent Robotics in Space</i> , Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990	
	C17	Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," <i>Ph.D. Dissertation</i> , Dept. of Mechanical Engineering, MIT, June 1989, archived 3/13/90	
	C18	Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," <i>Science</i> , Vol. 208, No. 4450, pp. 1327-1335, 1980	
	C19	Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," <i>Proceedings Of Fourth CISM-IFTOMM</i> , Sep. 8-12, 1981	
	C20	McAfee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," <i>JPL 1988</i> , JPL D-5172	
	C21	Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," <i>Ph.D. Dissertation</i> , MIT, June 1995, archived 7/6/95	
	C22	Jacobsen et al., "High Performance, Dexterous Telerobotic Manipulator With Force Reflection," <i>Intervention/ROV '91 Conference &amp; Exposition</i> , Hollywood, Florida, May 21-23, 1991	
	C23	Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," <i>Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration</i> , Rensselaer Polytechnic Institute, Sep. 30- Oct. 1, 1992	
	C24	IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B, February 1990	
	C25	Terry et al., "Tactile Feedback In A Computer Mouse," <i>Proceedings of Fourteenth Annual Northeast Bioengineering Conference</i> , University of New Hampshire, March 10-11, 1988	
	C26	Howe, "A Force-Relating Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation," <i>Proceedings of the 1992 IEEE International Conference on Robotics and Automation</i> , Nice, France, May 1992	
	C27	Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," <i>IEEE Virtual Reality Annual International Symposium</i> , Seattle, WA, Sep. 18-22, 1993	

RECEIVED  
OCT 16 2002  
Technology Center 2100



<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete if Known</b>	
				<b>Application Number</b>	09/866,385
				<b>Filing Date</b>	May 24, 2001
				<b>First Named Inventor</b>	Bruce M. Schena
				<b>Group Art Unit</b>	2173
				<b>Examiner Name</b>	Unassigned
<b>Sheet</b>	3	of	3	<b>Attorney Docket Number</b>	IMM110A (IMMR-013/01US)

C28	Rabinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor area," <i>Journal of The Acoustical Society of America</i> , Vol. 82, No. 4, October 1987	
C29	Bejczy et al., "Kinesthetic Coupling Between Operator and Remote Manipulator," <i>International Computer Technology Conference, The American Society of Mechanical Engineers</i> , San Francisco, CA, August 12-15, 1980	
C30	Bejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," <i>SOAR '89 Workshop, JSC</i> , Houston, TX, July 25-27, 1989	
C31	Ouhyoung et al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," <i>IEEE Transactions on Consumer Electronics</i> , Vol. 41, No. 3, August 1995	
C32	Marcus, "Touch Feedback in Surgery," <i>Proceedings of Virtual Reality and Medicine The Cutting Edge</i> , Sep. 8-11, 1994	
C33	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00 1987 IEEE, 1987	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number.

<sup>2</sup> Applicant is to place a check mark here if English language Translation attached.

148189 v1/RE  
36CD01!.DOC

RECEIVED

OCT 16 2002

Technology Center 2100